



NUCLEAR ENERGY INSTITUTE

**Stephen D. Floyd**  
VICE PRESIDENT, REGULATORY AFFAIRS  
NUCLEAR GENERATION DIVISION

December 11, 2003

Mr. Samuel J. Collins  
Deputy Executive Director for Reactor Programs  
U.S. Nuclear Regulatory Commission  
Mail Stop 05 E7  
11555 Rockville Pike  
Rockville, MD 20852-2738

SUBJECT: Mitigating System Performance Index

Dear Mr. Collins:

Industry and NRC have been working for over two years to develop and implement a new performance indicator, the Mitigating System Performance Index (MSPI), to replace the current Safety System Unavailability (SSU) indicator. Significant resources have been expended by NRC and industry to pilot and develop the technical basis for an indicator which is far superior to the current one.

At our public meeting on October 22, industry provided the NRC with the following documents which are enclosed for your information:

- MSPI Success Criteria Assessment. This document addresses all of the success criteria which were developed to test the proposed indicator and concludes that we can and should proceed.
- PRA Technical Adequacy to Support Implementation of the Mitigating System Performance Index for the Reactor Oversight Program. This document addresses the adequacy of current PRAs for use in the MSPI.
- Mitigating System Performance Index. This document is a brief primer on what the MSPI is, why it is needed, and how it will be implemented.

A key principle of the Reactor Oversight Process (ROP) is the complementary nature of the performance indicators and inspection/significance determination process (SDP) activities. When performance indicators are established to confirm the desired outcome in a given area, inspection/SDP activities should be maintained at the baseline level. In this case, the MSPI would determine the risk significance of individual component failures and the rate of failures over time. Consistent with ROP principles, NRC and industry agreed before the pilot program began that the

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SDP would not be used in cases of simple, single failures. Inspection and follow-up to licensee corrective actions would continue to be performed per the baseline program. The SDP would be performed in instances which involved complicated failures, multiple concurrent failures, or failures which could not be discovered through normal surveillance tests.


This issue of whether MSPI is an adequate tool to replace the SDP to assess simple, single failures has been raised again by the staff. At our latest meeting on December 3, an evaluation of pilot plant component failures was presented by the Office of Research. Of the 77 component failures that occurred at the pilot plants over a three-year period, only one failure resulted in a MSPI finding (green) that was less conservative than the SDP (white). No other evidence has been presented by the staff to support conduct of the SDP in parallel with MSPI. Thus, we firmly believe that MSPI is a more than adequate tool to assess the significance of simple, single failures, and that the SDP should be reserved for more complicated events.

The decision to proceed or not with MSPI was scheduled to be made last October. This decision cannot be prolonged much further without impacting the January 2005 industry-wide implementation date. Industry has developed a roll out plan that involves finalizing the reporting guidance, training, workshops and regulatory interactions necessary to support implementation.

In summary, we believe the pilot program and resolution of the resulting issues have successfully demonstrated that MSPI should proceed. It is clearly a superior performance indicator than SSU, meets all of the success criteria that were established, and will result in a significant improvement to the Reactor Oversight Process. We urge the NRC to expeditiously come to a decision on moving forward with MSPI so that effective and efficient implementation can begin in January 2005.

If you have any questions regarding this letter or the enclosures, please contact me or Tony Pietrangelo.

Sincerely,

A handwritten signature in cursive script that reads "Stephen D. Floyd".

Stephen D. Floyd

Enclosures

cc: Mr. James E. Dyer  
Mr. Hubert J. Miller  
Mr. Luis A. Reyes  
Mr. Bruce S. Mallett  
Mr. James L. Caldwell